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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,480	03/01/2004	James S. Shirk	102-008-US	7566
28727	7590	11/15/2006	EXAMINER	
STAMATIOS MYLONAKIS 7009 CASHELL MANOR COURT DERWOOD, MD 20855-1201			FERGUSON, LAWRENCE D	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,480

Applicant(s)

SHIRK ET AL.

Examiner

Lawrence D. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Election

1. This action is in response to the provisional election mailed August 28, 2006. (Group I) Claims 1-18 were elected rendering (Group II) Claims 19 withdrawn as a non-elected invention.

RESPONSE TO REQUEST FOR RECONSIDERATION

2. Applicant's election with traverse of method of making a multilayer structure (Group II) is acknowledged. The traversal is on the ground(s) that 'if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims distinct or independent inventions.' M.P.E.P. 803. Additionally, 'no adequate reasons and/or examples have been provided to support conclusions of patentable distinctness between the restricted invention.' Examiner respectfully disagrees with this argument because the restriction requirement stated "in the instant case, the product can be made by forming a multilayer structure by combining melt stream (A) with melt stream (B) to form parallel layers (A) and (B) and calendaring the combined material." Additionally, the search of the 2 classes and subclasses would entail the requisite serious burden as the search for method of making is not the same as the article search. The steps used in the method claims would not be expected to appear in the class/subclass of the product claims. Every multilayer structure is not made using the same method steps.

Applicant's requests for rejoinder of Group I invention and Group II invention, upon allowance of Group I is acknowledged.

The requirement is deemed proper and is therefore made **FINAL**.

Claim Rejections – 35 USC 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase, "wherein the layer thickness of said layer A and B are less than one quarter of the wavelength of interest" is indefinite. Applicant has not claimed or mentioned a wavelength of interest; therefore, it is not possible to determine the thickness of layers A and B.

Claim Rejections – 35 USC § 103(a)

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Im et al. (U.S. 4,540,623).

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Im discloses a multilayer structure comprising at least forty polymeric alternating layers, where one layer comprises polycarbonate and the other polymeric layer can comprise a wide variety of other thermoplastic materials, such as polymethyl methacrylate and polyvinylidene chloride (column 1, lines 52-63, column 2, lines 64-68 and column 3, lines 22-26). I'm further discloses the multilayer article can be transparent and the number of layers can range from 40 to about 1500 (column 2, lines 21-23, column 5, lines 33-35 and column 12, lines 34-35). The reference discloses the refractive indices of the transparent adjacent layers differ from one another (column 7, lines 40-43). The thickness of the layers are about 0.05um to about 1,000um and the thickness of the sheets are about 50 mils (column 6, lines 25-27 and column 8, lines 14-15). Im discloses it is possible to use an adhesive material as a layer between each of the polycarbonate layers and other thermoplastic resin layers along with having polymeric sacrificial skin layers (barrier layers) (column 6, lines 55-57 and 63-68). Im discloses maleic anhydride can be used in the multilayered structure (column 3, lines 17-20). The other thermoplastic material present in the alternating polymeric layer that is not polycarbonate includes rubber modified resins such as styrene butadiene (column 2, line 64 through column 3, line 11). In claim 1, the phrase, "can be varied by tensile, compressive or shear force" constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform. Because Im discloses a multilayer polymer structure having a plurality of alternating layers comprising different polymers exhibiting differences in the index of refraction, it would have been expected to one of ordinary

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skill in the art for the alternating layers to also have a difference in elastic moduli of the alternating layers and for the multilayered structure to exhibit a single refractive index.

Response to Arguments

7. The objection of claim 2 as being a substantial duplicate of claim 1 is withdrawn due to Applicant canceling claim 2. Additionally, the objection of claim 13 is withdrawn due to Applicant amending the claim as suggested by Examiner.

Rejection made under 35 U.S.C. 102(b) as being anticipated by Yializiset al. (U.S. 5,912,069) is withdrawn due to the reference not teaching two alternating layers of different polymers. The reference taught alternating layers of a metal and a polymer.

Rejection made under 35 U.S.C. 102(b) as being anticipated by Wheatley et al. (U.S. 5,278,694) is withdrawn due to the reference not teaching the multilayer structure being transparent and exhibiting a single refractive index.

Rejections made under 35 U.S.C. 102(e) and 103(a) as being anticipated by Kollaja et al (U.S. 6,579,601) is withdrawn due to the reference not teaching the multilayer structure being transparent and exhibiting a single refractive index.

Rejections made under 35 U.S.C. 102(b) as being anticipated by Hyde et al. (U.S. 6,045,895) is withdrawn due to the reference not teaching the multilayer structure being transparent and exhibiting a single refractive index.

Applicant's arguments to the rejection made under 35 U.S.C. 102(b) as being anticipated by Applicant's own admission are moot based on grounds of new rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

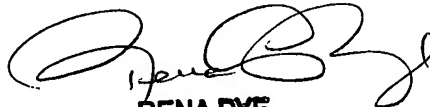
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


L. Ferguson
Patent Examiner
AU 1774


RENA DYE
SUPERVISORY PATENT EXAMINER

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